

Sequence Listing

<110> Japan Atomic Energy Research Institute

<120> A method for efficiently determining a DNA strand
break

<130> 030217

<160> 4

<200> 1

<211> 284

<212> PRT

<213> Deinococcus radiodurans, strain KD8301

<220>

<223> Amino acid sequence of DNA repair promoting protein,
PprA, of Deinococcus radiodurans, strain KD8301.

<400> 1

atg gca agg gct aaa gca aaa gac caa acg gac ggc atc tac gcc gcc 48

Met Ala Arg Ala Lys Ala Lys Asp Gln Thr Asp Gly Ile Tyr Ala Ala

1

5

10

15

ttc gac acc ttg atg agc acg gcg ggc gtg gac agc cag atc gcc gcc 96

Phe Asp Thr Leu Met Ser Thr Ala Gly Val Asp Ser Gln Ile Ala Ala

20

25

30

ctc gcc gcg agt gag gcc gac gcg ggc acg ctg gac gcg gcg ctc acg 144

Leu Ala Ala Ser Glu Ala Asp Ala Gly Thr Leu Asp Ala Ala Leu Thr

35

40

45

cag tcc ttg caa gaa gcg cag ggg cgc tgg ggg ctg ggg ctg cac cac 192

Gln Ser Leu Gln Glu Ala Gln Gly Arg Trp Gly Leu Gly Leu His His

50

55

60

ctg cgc cat gag gcg cg_g ctg acc gac gac ggc gac atc gaa att ctg 240
Leu Arg His Glu Ala Arg Leu Thr Asp Asp Gly Asp Ile Glu Ile Leu
65 70 75 80
acc gat ggc cgc ccc agc gcc cgc gtg agc gag ggc ttc gga gca ctc 288
Thr Asp Gly Arg Pro Ser Ala Arg Val Ser Glu Gly Phe Gly Ala Leu
85 90 95
g_cg cag gcc tac g_cg ccc atg cag g_cg ctc gac gaa cgc ggc ctg agc 336
Ala Gln Ala Tyr Ala Pro Met Gln Ala Leu Asp Glu Arg Gly Leu Ser
100 105 110
cag tgg g_cg g_cg ctc ggc gag ggc tac cgc gct ccc ggc gac ttg ccg 384
Gln Trp Ala Ala Leu Gly Glu Gly Tyr Arg Ala Pro Gly Asp Leu Pro
115 120 125
ttg g_cg cag ctc aag gtg ctg atc gag cac gcc cgc gac ttc gaa acc 432
Leu Ala Gln Leu Lys Val Leu Ile Glu His Ala Arg Asp Phe Glu Thr
130 135 140
gac tgg tcg g_cg ggg cgc ggc gaa acc ttt cag cgc gtg tgg cgc aag 480
Asp Trp Ser Ala Gly Arg Gly Glu Thr Phe Gln Arg Val Trp Arg Lys
145 150 155 160
ggc gac acc ctg ttt gtc gag gtg gcc cgg ccc g_cg tcc gcc gag gcc 528
Gly Asp Thr Leu Phe Val Glu Val Ala Arg Pro Ala Ser Ala Glu Ala
165 170 175
g_cg ctc tcc gac gct gcc tgg gac gtg atc gcc agc atc aag gac cgc 576
Ala Leu Ser Asp Ala Ala Trp Asp Val Ile Ala Ser Ile Lys Asp Arg
180 185 190
gcc ttc cag cgt gag ctg atg cgc cgc agc gag aag gac ggg atg ctc 624
Ala Phe Gln Arg Glu Leu Met Arg Arg Ser Glu Lys Asp Gly Met Leu
195 200 205
ggc gcc ctg ctc ggg gct cgc cac gcc ggg gcc aag gcc aac ctc gcc 672

Gly Ala Leu Leu Gly Ala Arg His Ala Gly Ala Lys Ala Asn Leu Ala
210 215 220
cag ctg ccc gaa gcg cac ttc acc gtg cag gcg ttc gtg cag acc ctc 720
Gln Leu Pro Glu Ala His Phe Thr Val Gln Ala Phe Val Gln Thr Leu
225 230 235 240
agc gga gcc gcc gcc cgcc aac gcc gag gag tac cgcc ggc ctg aaa 768
Ser Gly Ala Ala Ala Arg Asn Ala Glu Glu Tyr Arg Ala Ala Leu Lys
245 250 255
acc gcc gcc gct gcg ctg gag gaa tac cag ggc gtg acc acc cgcc caa 816
Thr Ala Ala Ala Ala Leu Glu Glu Tyr Gln Gly Val Thr Thr Arg Gln
260 265 270
ctg tcc gaa gtg ctg cgcc cac ggc ctg cgcc gag agc tga 855
Leu Ser Glu Val Leu Arg His Gly Leu Arg Glu Ser Sto
275 280 285

<200> 2
<211> 855
<212> DNA
<213> Deinococcus radiodurans, strain KD8301
<220>
<223> Nucleotide sequence of DNA repair promoting protein,
pprA, of Deinococcus radiodurans, strain KD8301.

<400> 2
atggcaaggg ctaaagcaaa agaccaaactg gacggcatct acgcccctt cgacaccctg 60
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ggcacgctgg acgcggcgct cacgcagtcc ttgcaagaag cgccaggcgctg ctggggctg 180
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accgatggcc gccccagcgc ccgcgtgagc gagggcttcg gagcactcgc gcaggcctac 300
gcgcgcatgc aggcgctcga cgaacgcggc ctgagccagt gggcggcgct cggcgagggc 360
taccgcgctc ccggcgactt gccgttggcg cagctaagg tgctgatcga gcacgcccgc 420
gacttcgaaa ccgactggtc ggccccggc ggcgaaacct ttcagcgcgt gtggcgcaag 480
ggcgacaccc tttttgtcga ggtggcccg cccgcgtccg ccgaggccgc gctctccgac 540
gctgcctggg acgtgatcgc cagcatcaag gaccgcgcct tccagcgtga gctgatgcgc 600
cgcagcgaga aggacggat gtcggcgcc ctgctcgggg ctcgcccacgc cggggccaag 660
gccaacctcg cccagctgcc cgaagcgcac ttccaccgtgc aggcggtcgt gcagaccctc 720
agcggagccg ccgcccccaa cgccgaggag taccgcgcgg ccctgaaaac cgccgcccgt 780
gcgcgtggagg aataccaggg cgtgaccacc cgccaactgt ccgaagtgct gcggcacggc 840
ctgcgcgaga gctga

855

<200> 3

<211> 35

<212> DNA

<213> Artificial sequence

<220>

<223> Sense primer for amplifying pprA gene.

<400> 3

ggcataata aaggccatat ggcaagggt aaagc

35

<200> 4

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Antisense primer for amplifying pprA gene.

<400> 4

ttttggatcc tcagctctcg cgcaggccgt gc

32